

SCLEROTINIA STEM ROT OF CHRYSANTHEMUM

J. J. McRitchie

Sclerotinia stem rot, also known as cottony stern rot, is caused by *Sclerotinia sclerotiorum* (Lib.) d By. This widely distributed fungal pathogen has a broad host range and causes serious damage to many economic crops (1,5). It has been reported on more than 360 different plant species (6).

SYMPTOMS. In chrysanthemum, basal stem areas attacked by the pathogen first show a dark green wet rot (2). Wilting of the upper leaves and flowers may also be evident at this time. Under conditions of high humidity, cottony white mycelium forms along the stem and leaf surfaces (3). The entire stem is quickly killed, and the plant wilts and dies. Hard black bodies of fungal tissue called sclerotia form along the stem. These irregularly shaped sclerotia average 3-6 mm (1/8-1/4 in) in diameter. Sclerotia may also be observed within the pith cavity of split stems (fig. 1). The presence of internal sclerotia is a diagnostic sign of this disease.

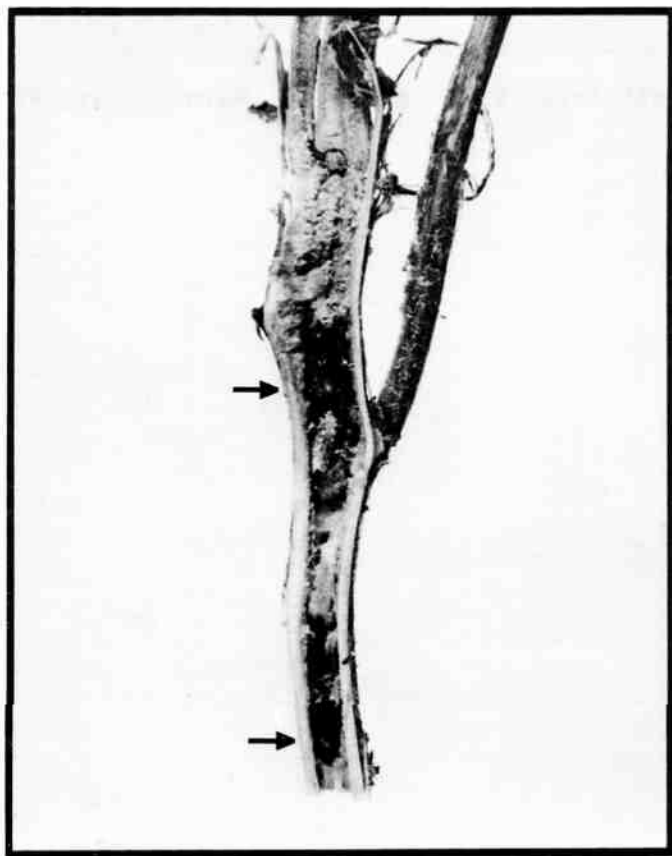


Fig. 1. Split chrysanthemum stem with black sclerotia in the pith cavity. (DPI Photo #700019-5)

DISEASE DEVELOPMENT. Sclerotia from diseased plants persist in the soil for 6 to 12 months (3). They germinate when soil temperatures drop to 10-18 C (50-65 F) for a week or more and produce apothecia, or pink, saucer-shaped, spore-bearing structures. Ascospores are ejected into the air and infect above-ground plant parts. The optimum temperature range for disease development is 15-21 C (60-70 F). High humidity with dew formation increases disease severity (6).

CONTROL. Unless proper control measures are taken, the disease can become progressively more severe in subsequent crops. Strict sanitation is often sufficient to effect control. Affected plants, along with the surrounding soil, should be carefully removed. Infected plant debris should be destroyed, and where possible, nonsusceptible crops should be employed in crop rotation. Soil treatment with benomyl, Vorlex, or with heat will help in control when the disease is established in an area (4). Benomyl and PCNB are approved for use as sprays on some plants (7).

SURVEY AND DETECTION. Look for wilting of the upper leaves and flowers, followed by the development of cottony white mycelium along the stem and leaves during periods of cool, moist weather. The presence of sclerotia in the pitl: cavity is a diagnostic sign.

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